

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/767,707      | 01/24/2001  | Kazuo Sugai          | ASA-959             | 3678             |

24956 7590 08/27/2004

MATTINGLY, STANGER & MALUR, P.C.  
1800 DIAGONAL ROAD  
SUITE 370  
ALEXANDRIA, VA 22314

EXAMINER

MURPHY, RHONDA L

ART UNIT PAPER NUMBER

2667

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/767,707 | <b>Applicant(s)</b><br>SUGAI ET AL. |  |
|                              | <b>Examiner</b><br>Rhonda L Murphy   | <b>Art Unit</b><br>2667             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,10 and 11 is/are rejected.
- 7) ☒ Claim(s) 2,8,9 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>01/24/01</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because Fig. 3 displays an arrow pointing from item 4422 towards item 43, where the arrow should point in the opposite direction – from item 43, towards item 4422. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2667

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,3,4,6,7 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Hojo (US 6,744,762).

**Regarding claim 1**, Hojo teaches a network routing apparatus comprising a plurality of packet forwarding units for performing a process of forwarding input packets (Fig. 1, **header converters 171-178, separation/insertion units 101-108, and buffers 111-118**, combined represent the packet forwarding units); a packet distribution unit for distributing input packets supplied from an interface of a router into said packet forwarding units in order or into empty ones of said packet forwarding units which do not now perform processing (the enclosed unit of Fig. 1 represents the packet distribution unit; col. 6, lines 44-46); and a packet rearrangement unit for performing rearrangement of packets in inputting order of the packets which are subjected to said packet forwarding process by said packet forwarding units (Fig. 1, **packet rearrangement units 161-168**; col. 6, lines 60-65).

**Regarding claim 3**, Hojo teaches a network routing apparatus wherein said packets are sequentially numbered by said packet distribution unit when said packets are distributed to said packet forwarding units by said packet distribution unit (col. 6, lines 51-57; where the enclosed unit of Fig. 1 represents the packet distribution unit, which forwards packets to the packet forwarding units); said packet forwarding units retain

Art Unit: 2667

said packets with said packet sequence numbers while said packet forwarding units perform said packet forwarding process (col. 6, lines 46-59); and said packet rearrangement unit rearranges said packets in the order of said packet sequence numbers (col. 6, lines 60-64).

**Regarding claim 4**, Hojo teaches a network routing apparatus comprising a first queue waiting for start of said packet forwarding process after packet distribution by said packet distribution unit (Fig. 1, **buffer 111-118**); and a second queue waiting for rearrangement of said packets by said packet rearrangement unit after completion of packet processing by said packet forwarding units (Fig. 2, **received-packet memory 204**; col. 7, lines 11-14).

**Regarding claim 6**, Hojo teaches a network routing apparatus comprising a plurality of packet forwarding units for performing a process of forwarding input packets (Fig. 1, the enclosed unit of Fig. 1 represents the packet forwarding units); each of said packet forwarding units including: a packet header operating mechanism for extracting a header of a packet and rewriting said header (Fig. 1, **header converters 171-178**; col. 6, lines 46-48) a plurality of packet retrieving units performing packet header retrieval while said packet header extracted by said packet header operating mechanism is used as a key (Fig. 16, **packet header separation/register setting unit 1601**; col. 16, lines 28-32); a retrieval packet distribution mechanism for distributing packet headers to said plurality of packet retrieving units (Fig. 16, **write/read controller**); and a retrieval packet rearrangement unit for rearranging packet header retrieval results supplied from said plurality of packet retrieving units (Fig. 16, **packet rearrangement mpu 1603**).

Art Unit: 2667

**Regarding claim 7**, Hojo teaches a network routing apparatus wherein said retrieval packet distribution mechanism distributes packet headers to said packet retrieving units in order or to empty ones of said packet retrieving units which do not now perform processing (Fig. 16, col. 16, lines 29-32, 39-41).

**Regarding claim 10**, a network routing apparatus according to Claim 6, further comprising: a first queue waiting for start of said packet header retrieving process after distribution of said packet headers by said retrieval packet distribution unit (col. 16, lines 36-38; the first queue represented by the **received-packet memory 1540**); and a second queue waiting for rearrangement of retrieval results by said retrieval packet rearrangement unit after completion of said packet header retrieving process in said packet retrieving units (col. 17, lines 7-12; the second queue represented by the **received-packet memory 1540**).

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hojo in view of Murai (US 6,775,279).

**Regarding claims 5 and 11**, Hojo teaches a network routing apparatus set forth in the rejection of claim 1, as described above.

Hojo fails to teach a counter for counting the number of packets subjected to the packet forwarding/retrieving process, wherein the network routing apparatus obtains statistically the number of packets subjected to the packet forwarding/retrieving process by tabulating the number of packets picked up in each of said packet forwarding/retrieving units.

However, Murai teaches a first counter (Fig. 1, **multicast packet count section 106**) for counting the number of packets or bytes in packets (col. 7, lines 30-31) subjected to said packet forwarding/retrieving process by each of said packet forwarding/retrieving units (**packets transmitted from the multicast section 103**; col. 7, lines 31-32), wherein said network routing apparatus obtains statistically the number of packets or bytes subjected to said packet forwarding/retrieving process by tabulating the number of packets or bytes picked up in each of said packet forwarding/retrieving units (col. 7, lines 30-40).

In view of this, having the system of Hojo and then given the teaching of Murai, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Hojo, by incorporating a counter into the network routing apparatus, so as to obtain and track the number of packets forwarded/retrieved by the system.

#### ***Allowable Subject Matter***

6. Claims 2, 8, 9 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the



limitations of the base claim and any intervening claims. Prior art does not teach the following limitations:

**Regarding claim 2**, a network routing apparatus wherein a series of packets to be forwarded from a packet sender address to a forwarding address are not arranged in reversed order even in a case where said packets are not rearranged by said packet rearrangement unit.

**Regarding claim 8**, a network routing apparatus wherein a series of packets to be forwarded from a packet sender address to a forwarding address even when said packets are not rearranged by said retrieval packet rearrangement unit.

**Regarding claim 9**, a network routing apparatus wherein said packet retrieving units retain said packet headers with said packet header sequence numbers while said packet retrieving units perform said packet header retrieving process.

**Regarding claim 12**, a network routing apparatus wherein said packet retrieving units classify packets on the basis of header conditions of said packets and outputting numbers specifying results of the classification as retrieval results; said retrieval packet rearrangement unit measures packet transfer rates in accordance with said numbers specifying said classification results of said packets received from said packet retrieving units; and when a quantity of input packets exceeds a predetermined value, a process of aborting packets, process of aborting packets easily at the time of traffic congestion or a process of suppressing an output rate of the packets to prevent the of the packets from exceeding output rate a predetermined value is executed in accordance with results of said measurement.


**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda L Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 8:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (703) 305-4798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

rlm

  
RICKY NGO  
PRIMARY EXAMINER